

**Masuyuki TAKAHASHI t all**  
Serial No. **09/702,828**  
July 30, 2003

### REMARKS

Favorable reconsideration and allowance of this application are requested.

By way of the amendment instructions above, the subject matter of original claim 6 has been introduced into claim 1 and, as such, claim 6 has been cancelled. Claims 13 and 14 have each been amended so as to delete species therein inconsistent with the amended version of claim 1. Typographical errors have also been corrected above in claims 11 and 12. Hence, claims 1-5 and 7-14 remain pending herein for which favorable reconsideration on the merits is requested.

The amendments above render moot the art-based rejection advanced under 35 USC §102(b). Accordingly, the only issue remaining to be resolved in this case is the rejection of original claims 1-14 under 35 USC §103(a) as allegedly unpatentable over JPA 56-62835 (hereinafter "the JP '835 reference") in view of European Patent No. 449,685 (hereinafter "the EP '685 patent").<sup>1</sup>

The JP '835 reference describes a method for improving weather resistance of polyolefine composition by combined use of a triazine compound (a) having a 2,2,6,6-tetra-methyl-4-piperidyl group, which is termed as a N-H type piperidyl group, and a 3,5-di-t-butyl-4-hydroxy-benzoic acid hexadecyl (b). The alkyl benzoate used in the JP '835 reference is 3,5-di-tertially butyl-4-hydroxy-benzoic acid-hexadecyl (b). However, the hindered amine compound represented by formula (I) of the JP '835 reference is a triazine compound (a) having N-H type piperidyl moieties in a molecule.

In contrast, the hindered amine photostabilizer contained in the thermoplastic elastomer composition of the present invention is a hindered amine having a 1,2,2,6,6-pentamethyl-4-piperidyl group, so that it has N-CH<sub>3</sub> type piperidyl moieties in its

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<sup>1</sup> It is noted that the cite reference to EP Patent No. 56,062,835 in the form PTO-1449 is in error, and that such cite should have been to JP 56-062,835.

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molecule. Therefore the hindered amine compound used in the present invention is clearly structurally different from that of the JP '835 reference.

Accordingly, the present invention cannot be rendered unpatentable over the JP '835 reference because, although an alkylbenzoate compound (b) used in the JP '835 reference may arguably be said to overlap the alkylbenzoate compound disclosed in the present application, the hindered amine compound which is disclosed in the JP '835 reference is different from the alkylbenzoate compound of the present invention. Therefore, there is no suggestion at all provided by the JP '835 patent that the hindered amine compound as claimed herein would or could be employed in a thermoplastic elastomer compound as claimed herein. As such, withdrawal of the JP '835 patent as a reference against the present invention is in order.

The EP '685 reference describes a polypropylene resin composition comprising a polypropylene resin mixture of polypropylene, 5 - 40% by weight (based on the mixed composition) of  $\alpha$ -olefin copolymer rubber, and 5-40% by weight of a filler, and compound (A), (B), (C), (D), (E), and (F). Judging from the description of page 6, lines 17 to 26 of the EP '685 reference, compound (A) is a hindered phenolic compound and is different from the component relating to the present invention. Compound (B) is a high molecular weight hindered piperidine compound and is different from the hindered amine photostabilizer of the present invention. That is, while the hindered amine photostabilizer of the present invention has a N-CH<sub>3</sub> type piperidyl group, the compound (B) has N-H type piperidyl groups in its molecule.

Compound (C) is a low molecular weight hindered piperidine compound. As shown on the page 3 of the EP '685 reference, both R<sub>1</sub> in formula (C-1) and R<sub>2</sub> in (C-2) may have a methyl group. A low molecular hindered piperidine compound having a N-H type piperidyl group (R<sub>1</sub> is hydrogen atom in (C-1)) is used in the example 1 of the EP '685 reference, and a low molecular hindered piperidine compound having a N-H type

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piperidyl group ( $R_2$  is hydrogen atom in (C-2)) is used in the example 6 of the EP '685 reference. In the case when the  $N-R_2$  of a piperidyl group is  $N-CH_3$  in the formula (C-2), the hindered piperidine compound will correspond to a carboxylic acid ester of 1,2,2,6,6-pentamethyl-4-piperidinol.

Compound (D) is a benzoate compound as represented by (D-1), which corresponds to a kind of an aryl benzoate compound. In contrast, a benzoate compound relating to the present invention is an alkyl benzoate compound. The advantage of a combination of hindered amine photostabilizer having piperidyl groups in the structure and an alkylbenzoate compound over a combination of hindered amine photostabilizer having piperidyl groups and an arylbenzoate compound is shown in the Example 1 and Comparative Example 1-2 of the specification. A phosphorus containing antioxidant relating to the original claim 7 is disclosed in the EP '685 reference as formula (E-3).

Accordingly, the present invention is not anticipated by the EP '685 reference, because the EP '685 reference does not describe an alkylbenzoate relating to the present invention, and a combination of the alkylbenzoate and the hindered amine having a  $N-CH_3$  type piperidyl group in the structure.

As discussed above, the JP '835 reference discloses an alkylbenzoate compound which corresponds to that of the present invention, but does **not** describe a hindered amine photostabilizer having a  $N-CH_3$  type piperidyl groups in a molecule. Nor does the JP '835 reference describe or suggest any advantage of the hindered amine photostabilizer having the  $N-CH_3$  type piperidyl groups over a hindered amine having  $N-H$  type piperidyl groups in its molecule. In contrast, the EP '685 reference does not describe the alkylbenzoate compound which corresponds to that of the present invention, nor describe or suggest any advantage of an alkylbenzoate compound over an arylbenzoate compound. Furthermore, both the JP '835 and EP '685 references do not describe or suggest any advantage attributable to the combination of a hindered

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amine photostabilizer having a N-CH<sub>3</sub> type piperidyl group in its molecule and an alkylbenzoate compound over a combination of hindered amine photostabilizer having a N-H type piperidyl group and an arylbenzoate compound.

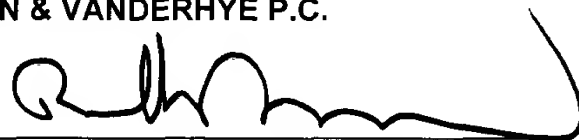
Accordingly, the present invention which contains a thermoplastic elastomer composition comprising a combination of an alkylbenzoate compound and a hindered amine photostabilizer having a N-CH<sub>3</sub> type piperidyl groups in its molecule would not "obviously" be the result of either the JP '835 reference or the EP '685 reference alone or in combination with one another.

In view of the amendments and remarks above, therefore, applicants suggest that this application is in condition for prompt allowance and Official Notice to that effect is solicited.

Respectfully submitted,

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